

# IS YOUR HOME ELECTRICALLY SAFE?

Many avoidable fires occur every year and many tragic accidents are recorded, because users of electricity are either unfamiliar with common dangers and the precautions that should be taken to prevent serious consequences, or are careless in observing the rules of common safety. Millions of dollars worth of property are destroyed and countless lives sacrificed as a result. It is the belief of your POWER COMPANY and the ELECTRICAL DEALERS of the community that a thorough knowledge of the dangers of faulty equipment and the ordinary causes of accidents will tend to eliminate many, if not ALL such casualties, and to that end, we present a full discussion of these matters taken from the recommenda-

tions of the International Association of Electrical Inspectors. Electricity is becoming a very common servant in the American home and the housewife has occasion to use it many times a day. The fact is, that the domestic use of electricity has more than doubled during the past few years in Las Vegas. Along with this widespread increase, should go a working knowledge of how to care for electrical equipment and keep it serviceable and safe. It is common knowledge that electricity is perfectly safe when properly used, but there are certain rules which should be observed to keep it safe at all times. It is with this in mind that we present the following fourteen important ideas and suggestions.

## INSTALLING WIRING

This starts when the house is built. The electrical equipment of a home will not be as safe as it should be if improper materials are used, or if the methods employed are not in accordance with safe practice. A set of rules has been drawn up for safe practices in house wiring known as the National Electrical Code. This code has been accepted as an American Standard by the American Standards Association and is published as the regulations of the National Board of Fire Underwriters. It has been adopted in the city of Las Vegas and its enforcement is in the hands of the city's electrical inspector.

Whenever it is necessary to make additions, alterations or repairs to the wiring, dependence should not be placed upon an inexperienced handy-man to do the work, for in this way the safety of the whole installation may be impaired. It is best to have the work done by a capable, authorized contractor.

## USE PROPER WIRE AND CORDS

Among the electrical equipments responsible for fires, WIRES AND CORDS are charged with a greater loss than any other class of electrical products.

All types of wiring recognized by the National Electrical Code are safe when properly installed and maintained. When permanent wiring causes a fire, improper installation or subsequent neglect usually is the cause. This is the reason for the suggestion that wiring jobs, especially additions and repairs, be given to an experienced person.

So long as wires and wiring accessories are adequately protected by isolation, by boxes, or securely mounted in the hollow spaces of walls, the chance of mechanical damage is relatively slight. But when extensions of the permanent wiring system take the form of flexible cords, no such protection is possible.

Every household has a number of these cords for the connection of portable appliances and special attention should be given to their selection and care because the same voltages and the same potential hazards inherent in the carefully protected wires in the wall exist in the flexible cords.

## CARE OF FLEXIBLE CORDS

Because cords receive such severe treatment, it is essential to keep them in good working order. Fortunately it is relatively easy to observe when cords are wearing out because, unlike parts of the wiring system, they are in plain view. Labeled cords are of higher quality and will outlast inferior cords by a wide margin, but all cords wear out ultimately and should be watched.

It is especially important to watch a cord at its point of most frequent bending, usually where it enters the appliance. Observe the cord carefully to see if there is any possibility of a copper wire projecting through the insulation to short circuit or cause a shock.

It is surprising to use cords which are so badly worn as to have exposed conductors. Such conditions often exist, however, due chiefly to lack of knowledge of the hazards involved.

## FUSES

The fuse is the safety valve of the electrical system. It consists of a small link of soft metal which melts when too much current passes through it. If a short circuit occurs anywhere in the wiring system, an excessive current flows through the wires and through the fuse, and, if the fuse operates properly, it will melt, cutting off the current before any harm can be done.

If the fuse FAILS to operate, the wires may become hot enough to ignite the insulation, possibly causing a fire. Because of the very important function that fuses have to serve, they should never be tampered with or their purpose will be defeated.

TAMPERING WITH FUSES, either putting pennies in the case or connecting a wire around them, is like putting a clamp on the safety valve of a steam boiler. Never permit the use of makeshift fuses or fuses of improper rating.

Fuses have a second function. Besides protecting in the case of short circuit, they protect in the case of overload. If too many appliances are connected to one circuit, more current will be drawn through the supply wires than the wires were meant to carry. Overload wires become hot, sometimes to the point of injuring the insulation and causing fires.

When circuits are overloaded, the fuse, if properly selected, will melt or "blow" thus protecting the wires. When a fuse "blows" something is wrong. Either a cord or an appliance is defective or there are too many appliances connected at the same time on one circuit. Investigate immediately for there's danger ahead.

Recently a new protective device called a "multi-breaker" has

been used and this takes the place of the fuse. These do not have to be replaced, but just re-set after they trip off due to an overload.

## KEEP EQUIPMENT IN GOOD ORDER

Proper use of electrical wires and equipment is just as important as proper materials and proper installation. Allowing electrical equipment to fall into disrepair is responsible for most of the fires charged against electric service. The electric wires in a house must be maintained in good order if the installation is to be safe. It is a sign of trouble when sockets hiss or lamps flutter, when plugs are loose in wall outlets, when wall switches fail, when a shock is obtained from an appliance, or when an appliance fails to operate or causes a blown fuse.

Before any such failure can grow into a hazard, it is advisable to have the trouble remedied.

## CORDS GET HARD SERVICE

Flexible cords are called upon to perform a particularly severe service. The cords used on appliances must stand a great amount of flexing, twisting, bending and kinking without breaking down.

Heater cords must withstand frequent contacts with hot parts of appliances and the braids must resist abrasive wear on the edges of tables, ironing boards, etc.

Cords for use on portable lamps are apt to be stepped on and receive frequent abuse because of their location on the floor.

As a result of this severe service, it is evident that all cords will ultimately wear out, but some cords, made carefully and with durable materials, will give longer and safer service than others of inferior construction. The safety precautions built into the permanent wiring of the house are of no avail if the last link in the wiring chain, the attachment cords, are not suitable for the purpose or are not kept in good repair.

## PORTABLE EXTENSION CORDS

Precautions expressed above in regard to the care of flexible cords, apply also to portable extension cords. Extensions are not recommended for permanent attachment, but they are handy and are widely used to extend a light temporarily to a dark place or to make possible the use of an appliance at a distance not permitted by the regular attachment cord.

If such extensions are used on damp earth, as under houses, in barns or in the garden, good insulation is important. In these locations, sockets or insulating materials should be used and lamps should be protected by guards.

## FLATIRONS

It seems hardly necessary to warn against leaving electrical flatirons connected to the circuit, but overheated flatirons have been responsible for more fires than any other electrical appliance.

Most of these fires occur when the operator has left home without disconnecting the iron. Sometimes such fires are caused by connecting irons to sockets at the end of hanging cords, controlling the iron with the key or pull-chain switch in the socket or by the wall switch. When this is done there may be no indication to show when the current is on or off, and quite often the operator turns the iron on when he thinks he is turning it off.

Surest way to disconnect an iron is to disconnect the cord.

## WASHING MACHINES

Electric washing machines must necessarily be used in the presence of water and grounded piping systems and are sometimes used on damp earth. For these reasons special precautions should be employed in their use.

Electric motors of washing machines are usually well insulated, but getting a motor wet may reduce its insulation qualities. The cord is the more likely to become defective. Only rubber-sheathed cords of good quality should be used on washing machines and these should be replaced when they become worn.

Surest way to safeguard against shock from insulation breakdown in washing machines is to have an electrician connect a special wire between the frame of the washer and a water pipe, and to take care to see that the wire does not become broken and that connections at each end remain secure. Then, with any failure of insulation which might create a dangerous condition, the fuse will be blown.

It is also advisable to connect the washer to a wall-plug rather than to a hanging socket, and the outlet should have a cover plate of insulating material.

Where washing machines would otherwise be used on earth, a raised wooden platform large enough to take both the machine and the operator, in addition to the protective grounding wire, constitutes a double safe guard.

## AVOID SHOCK HAZARDS

Nearly everyone at some time, has received slight shocks from electrical equipment without ill-effects. Under particular circumstances, however, shocks can be dangerous and it is important to keep these circumstances in mind and avoid them.

The amount of shock one receives when he touches a piece of defective equipment depends upon how good his contact is and the path of the current. When hands are wet the contact is much better than when they are dry because water is a good conductor of electricity.

If the insulation of an appliance and its cord are kept in good condition, shocks will not be received even though hands are wet, but just for safety's sake, it is good practice to dry the hands before handling appliances connected to the circuit.

To make sure this rule is followed, the best plan is to avoid using appliances in locations where water exists, such as close to the bathtub or very close to the kitchen sink. The general rule should be to use appliances far enough away from water faucets so that one cannot touch the faucet or the water, and the appliance at the same time.

Electric fixtures in bathrooms which are within arm's reach, should be of porcelain or other insulating material. The handles of wall switches, the cover plates for such switches and the cover plates for convenience outlets should also be of insulating material.

## INFERIOR CORDS

Most unfortunately, a class of flexible cords built far below recognized safety standards have been placed on the market and sold in large quantities. The wires in these cords are insulated with a thin layer of very low-grade rubber which is usually not vulcanized and which has relatively little mechanical strength. No protective braid is used over each individual wire, as is the case with cords of standard construction.

Electrical inspectors throughout the country became alarmed at the number of lamps and appliances equipped with such cords which were being sold by dealers who either did not understand or wilfully disregarded the hazards which might be involved in using them.

Utility companies found these cords quickly wore out, causing short circuits, blowing fuses and creating complaints to the point where the number of service calls was becoming a serious problem. Responsible electrical manufacturers felt that a product which was below recognized safety standards would reflect adversely on the use of electricity.

As a consequence cords of approved safety construction are now marked with a bracelet-like label indicating they have been manufactured in accordance with the safety standards set up by the Underwriters' Laboratories, a recognized authority in such matters.

All types of cords for home use which are so approved may now be marked with the bracelet label and customers should make sure that all cords purchased, either as part of appliances or separately, bear these labels.

## VACUUM CLEANERS

Sometimes when vacuum cleaners are run against steam radiators or touch some other metal which makes electrical contact with the ground, sparks occur and a fuse blows out. This is an indication that insulation is defective at some point. It is likely that the cord has worn out where it enters the cleaner and a wire is touching the metal case. A prompt repair is advisable.

## ELECTRICAL TOYS

Electrical toys, like all other electrical devices, are safe if they are well made and kept in good condition. Parents should subject electrical toys to a careful inspection from time to time to see that they are in good order.

Attention should be given to the condition of the cords, especially if these are of the sub-standard variety. If the electrical parts of toys are injured, they should be carefully repaired or discarded.

Electric trains use a transformer to reduce the house voltage while some other types of toys use the full voltage directly. Toy trains have been used for many years with reasonable safety.

## WASHING ELECTRICAL APPLIANCES

When it is realized that insulating materials often absorb water and that water is a conductor of electricity, it is evident that appliances should NOT be immersed in water in such a way as to soak the electrical parts. When it is necessary to wash appliances, care should be taken to keep the electrical elements dry.

## ... FOR SAFETY'S SAKE IN YOUR HOME ...

### YOU SHOULD . . .

Have additions and repairs made by an authorized electrician.  
Have respect for your electrical equipment.  
Have an insulating link inserted in the chain of all pull-chain sockets you occasionally operate with wet hands.  
Use only cords that carry the approval of the Underwriters' Laboratories.  
Have an authorized electrician make an immediate investigation to determine the cause of any fuse blowing. It is an unmistakable sign of danger.

Always disconnect your flatiron by pulling the plug itself from the iron. Don't pull on the cord.  
Take special precautions in operating electrical washing machine.  
Watch electrical toys for insulation weaknesses.  
In the case of emergency, throw the main switch and call the power company or the electrical inspector. All older members of your household should know where the main switch is.  
Remove attachment plugs from outlets by grasping the plug itself and do not pull on the cord.

### YOU SHOULD NOT . . .

Use any electrical appliances while in the bathtub.  
Use appliances around water and water pipes unless absolutely necessary. Hair should be curled in the bedroom.  
Use extension lamp cords for outdoor and garage purposes unless they are rubber-sheathed and have guards around the lamps.  
Use electrical tools unless equipped with suitable heavy-duty rubber-sheathed cords.  
Overload your electrical circuits.

Let anyone tamper with your fuse box.  
Ever use pennies or other metal to replace a blown fuse.  
Use lamp sockets to supply appliances.  
Immerse electrical appliances in water so that the electrical elements become wet.  
Use temporary extensions to take the place of permanent wiring.  
Run cords under doors, or locate them where subject to injury.  
Handle electrical equipment with wet hands.

## ELECTRICITY IS PERFECTLY SAFE WHEN PROPERLY USED—OBSERVE THE RULES!

CONNOLLY ELECTRIC CO.  
EL PORTAL ELECTRIC CO.

GELBER ELECTRIC SHOP  
Jimmie Sadler Electrical Appliances  
LUCE & GOODFELLOW, Inc.

NEVADA ELECTRIC CO.  
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